AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application. Please amend the claims as follows.

1-23. (Canceled)

24. (Currently Amended) An integrated optical device comprising:

~~a~~ at least first and ~~a~~ second integrated waveguides, the first and second integrated waveguides each comprising a core and a cladding, a section of the first waveguide and a section of the second waveguide being arranged so as to be in an optical coupling relationship; and

~~a~~ first and ~~a~~ second modulated refractive index structures, respectively formed along the first waveguide section and the second waveguide section, each modulated refractive index structure comprising at least one pair of regions having a first refractive index n_1 and~~, respectively,~~ a second refractive index n_2 greater than the first refractive index, said regions in the first and second modulated refractive index structures being adjacent to each other along ~~the~~ their respective waveguide ~~section~~sections,

each of said regions in the first and second modulated refractive index structures comprising a portion of ~~the~~ its respective waveguide section and further comprising a gap extending at least across the entire cross-section of the core of ~~the~~ its respective waveguide section, the percentage difference $\Delta n = 100 \times (n_2/n_1 - 1)$ ~~[%]~~ between said first and second refractive indexes being greater than 1.5%.

wherein the first and second modulated refractive index structures each comprises a plurality of pairs of regions of mutually different refractive indexes arranged in succession along their respective waveguide sections, and

wherein at least one of said plurality of pairs of regions is a transmissive pair for transmitting optical signals with wavelengths within a prescribed wavelength pass band, the remaining pairs of regions being reflective pairs for reflecting optical signals with wavelengths within a prescribed wavelength stop band containing the pass band.

25. (Previously Presented) The integrated optical device according to claim 24, wherein said percentage difference is greater than 10%.

26. (Previously Presented) The integrated optical device according to claim 25, wherein said percentage difference is greater than 50%.

27. (Canceled)

28. (Canceled)

29. (Currently Amended) The integrated optical device according to claim ~~28~~ 24, wherein said pass band corresponds to at least one prescribed channel of a wavelength division multiplexed signal and said stop band is at least as wide as an overall wavelength spectrum region occupied by the wavelength division multiplexed signal.

30. (Currently Amended) The integrated optical device according to claim ~~28~~ 24, wherein said plurality of pairs of regions comprises two or more transmissive pairs, distributed among the reflective pairs, for transmitting optical signals with wavelengths within a prescribed wavelength pass band, the remaining pairs of regions being reflective pairs for reflecting optical signals with wavelengths within a prescribed wavelength stop band containing the pass band.

31. (Previously Presented) The integrated optical device according to claim 30, wherein the transmissive pairs have varying optical lengths in the light propagation direction.

32. (Previously Presented) The integrated optical device according to claim 31, wherein a number of reflective pairs between adjacent transmissive pairs varies along the respective waveguide section.

33. (Previously Presented) The integrated optical device according to claim 24, wherein the optically coupled waveguide sections of the first and second waveguides have a length such that an optical signal propagating through a first one of the two waveguides is substantially completely transferred to the second waveguide.

34. (Previously Presented) The integrated optical device according to claim 33, wherein each one of the first and second modulated refractive index structures is positioned along the respective waveguide sections in such a way that an equivalent

mirror thereof is located substantially at a position where a factor of optical coupling between the optically coupled waveguide sections is approximately equal to 50%.

35. (Previously Presented) The integrated optical device according to claim 29, wherein the first waveguide has a first input section, adjacent a first side of the optically coupled waveguide sections, and the second waveguide has a first and a second output sections, respectively, adjacent a second side and the first side of the optically coupled waveguide sections, and the device comprises:

a first optical path from the first input section to the first output section, the first optical path propagating from the first input section to the first output section a first optical signal with wavelength in said pass band; and

a second optical path from the first input section to the second output section, the second optical path propagating from the first input section to the second output section a second optical signal with wavelength in said stop band but outside the pass band.

36. (Previously Presented) The integrated optical device according to claim 35, wherein the first waveguide further comprises a second input section, adjacent the second side of the optically coupled waveguide sections, and the device further comprises a third optical path from the second input section to the second output section, the third optical path propagating from the second input section to the second output section a third second optical signal with wavelength in said pass band.

37. (Previously Presented) The integrated optical device according to claim 24, wherein an interface between said regions of mutually different refractive index is arranged orthogonally to the light propagation direction in the respective uncoupled waveguide section.

38. (Currently Amended) An integrated optical multiplexer/demultiplexer device comprising: ~~at least a first and a second integrated optical devices according to claim 36,~~

at least first and second integrated optical devices, each of the first and second integrated optical devices respectively comprising:

at least first and second integrated waveguides, the first and second integrated waveguides each comprising a core and a cladding, a section of the first waveguide and a section of the second waveguide being arranged so as to be in an optical coupling relationship; and

first and second modulated refractive index structures, respectively formed along the first waveguide section and the second waveguide section, each modulated refractive index structure comprising at least one pair of regions having a first refractive index n_1 and a second refractive index n_2 greater than the first refractive index, said regions in the first and second modulated refractive index structures being adjacent to each other along their respective waveguide sections,

each of said regions in the first and second modulated refractive index structures comprising a portion of its respective waveguide section and further

comprising a gap extending at least across the entire cross-section of the core of its respective waveguide section, the percentage difference $\Delta n = 100 \times (n_2/n_1 - 1)$ between said first and second refractive indexes being greater than 1.5%,

wherein the first and second modulated refractive index structures each comprises a plurality of pairs of regions of mutually different refractive indexes arranged in succession along their respective waveguide sections, and

wherein at least one of said plurality of pairs of regions is a transmissive pair for transmitting optical signals with wavelengths within a prescribed wavelength pass band, the remaining pairs of regions being reflective pairs for reflecting optical signals with wavelengths within a prescribed wavelength stop band containing the pass band,

wherein said pass band corresponds to at least one prescribed channel of a wavelength division multiplexed signal and said stop band is at least as wide as an overall wavelength spectrum region occupied by the wavelength division multiplexed signal,

wherein the first waveguide has a first input section, adjacent a first side of the optically coupled waveguide sections, and the second waveguide has first and second output sections, respectively, adjacent a second side and the first side of the optically coupled waveguide sections, and each of the first and second integrated optical devices further comprises:

a first optical path from the first input section to the first output section, the first optical path propagating from the first input

section to the first output section a first optical signal with wavelength in said pass band;

a second optical path from the first input section to the second output section, the second optical path propagating from the first input section to the second output section a second optical signal with wavelength in said stop band but outside the pass band;

wherein the first waveguide further comprises a second input section, adjacent the second side of the optically coupled waveguide sections, and the device further comprises a third optical path from the second input section to the second output section, the third optical path propagating from the second input section to the second output section a third second optical signal with wavelength in said pass band,

wherein one among the first and second output sections of the first integrated optical device is connected to one among the first and second input section of the second integrated optical device.

39. (Previously Presented) The integrated optical multiplexer/demultiplexer device according to claim 38, wherein the second output section of the first integrated optical device is connected to the first input section of the second integrated optical device, the first and second integrated optical devices having differentiated first and second pass

bands, corresponding to respective first and second channels of a wavelength division multiplexed optical signal.

40. (Previously Presented) The integrated optical multiplexer/demultiplexer device according to claim 38, further comprising a first integrated optical device adapted to separate an input wavelength division multiplexed optical signal into two groups of channels adjacent to each other in the wavelength domain, at least one second integrated optical device adapted to extract a signal in a respective channel of a respective one of the two channel groups and add a new signal in the same channel as the extracted signal, and a third integrated optical device for recombining the two channel groups.

41. (Previously Presented) The integrated optical multiplexer/demultiplexer device according to claim 38, wherein the first output section of the first integrated optical device is connected to the first input section of the second integrated optical device, and the second input section of the first integrated optical device is connected to the second output section of the second integrated optical device, and further comprising a tuning device for varying a pass band of the second integrated optical device in a wavelength range containing a pass band of the first integrated optical device.

42-46. (Canceled)